

## ABSTRACT

A method for transmitting a data packet from a mobile node to a correspondent node through a foreign agent while maintaining security is disclosed. A correspondent node transmits a first data packet for communication with a mobile node to the home agent. Upon receipt of the first data packet from the home agent, the foreign agent transmits the first data packet to the mobile node through a radio channel. The home agent transmits the IP address of the foreign agent to the correspondent node after transmitting the first data packet to the foreign agent. The correspondent node transmits tunneling indication information indicating whether it can decapsulate a data packet encapsulated by the foreign agent to the foreign agent after receiving the IP address of the foreign agent from the home agent. The foreign agent encapsulates subsequent data packets received from the mobile node with a tunneling IP header for reverse tunneling and transmits the encapsulated data packets to the correspondent node, after receiving the tunneling indication information from the correspondent node.